



Control Number: 40000



Item Number: 356

Addendum StartPage: 0

2012 NOV 14 4 23 PM
PUBLIC UTILITIES COMMISSION
OF TEXAS
UTILITY DIVISION
FILING CLERK

COMMENTS OF FIRST SOLAR, INC.

First Solar, Inc. hereby submits these comments to the Public Utilities Commission of Texas (hereafter "Commission"), in project 40000, on resource adequacy design options currently under deliberation by the Commission and, specifically, how utility-scale solar fits within those design options.

Introduction

First Solar is headquartered in the United States, and is a world leader in the manufacture of photovoltaic (PV) solar modules, and a premier provider of comprehensive PV solar systems. By enabling clean, renewable electricity at competitive prices, First Solar provides an economically and environmentally viable alternative to peaking fossil-fuel electricity generation, and is focused on creating value-driven renewable energy solutions that protect and enhance the environment. First Solar's business also spans the entire value chain, as we manufacture the PV panels, develop centralized project sites, provide engineering, construction and procurement services to all projects, as well as operations and maintenance services. First Solar has the largest portfolio of utility-scale solar PV projects in the United States. Specifically, First Solar has more than 3,000 megawatts of solar PV projects in the country that are in various stages of development, construction and operation.

First Solar appreciates the opportunity to offer these late-filed comments to the PUCT in Project 40000. In addition to the comments provided herein, First Solar is an active member of the Solar Energy Industries Association (SEIA), and is generally supportive of comments made by SEIA to this Commission to date.

Importance of Long Term Contracts for Solar

Utility-scale solar has high upfront costs, which are declining over time with the decline in solar costs globally, no fuel costs, very small ongoing operations and maintenance costs. The

entirety of First Solar's nearly 3,000 megawatt pipeline in the North America either: a) have a long-term power purchase agreement of 20 to 25 years, b) were developed and sold as a turnkey project to a utility, or, c) in the case of a few projects in and around Ontario, Canada, have a feed-in tariff arrangement. All three of these models, in which energy, capacity and renewable attributes are bundled and sold together, have proven effective in financing projects as these structures are inherently low-risk for the project developer. In addition, the contracting or purchasing off-taker has realized the value of a long-term solar commitment as both a peaking renewable energy resource, and hedge against conventional fuel price volatility.

Solar has generally not, to date, participated in a deregulated energy or capacity market, due to the inherent risk. Ideally, any changes in market design, or adoption of a new market design, would recognize the dual benefits of peaking capacity contribution and hedge against natural gas price volatility, and enable long-term contracts. We do acknowledge that it is important to recognize that solar is not alone in facing risk, and that investors in energy resources of all fuel types face these same risks. The particular complication with solar is that it has not yet been widely deployed in ERCOT, and thus the risk assessment is comparatively greater. In this context, we offer the following thoughts in these comments on market design.

Supports the increase in the HCAP to \$9,000/MWh

First Solar supports the Commission's decision on October 25th to raise the offer cap to \$9,000 per megawatt-hour over the next two years. Like other power producers that have commented before this Commission, higher offer prices provide some insight into what the market might be willing to bear, thus providing for some small amount of increased confidence to invest in the market.

Market Design

First Solar does not take a firm position with regard to the final market design adopted by the state. In reviewing the original Brattle Group report, submitted to the PUCT in June 2012, we did conclude that variations on most of the options, specifically options 2 through 5, could potentially be sufficient to incent investment in utility-scale solar energy projects in ERCOT, provided those options were structured appropriately. Of the Brattle Group's composite policy options discussed at the Commission's hearing on October 25th, we would

lean toward a capacity market, provided that the rules within the market are structured to appropriately value, and avoid unintentionally penalizing, solar.

We note that the Brattle Group did mention, in its composite policy options, within the design overview for a capacity market, the goal of “aligning resource obligations and incentives with resource adequacy value (special considerations for generation, variable resources, DR)”.¹ Solar is indeed a variable generator, though with very different characteristics than that of a wind generator, and First Solar agrees that some special considerations should be made for variable generation. We recommend that these considerations include, but not necessarily be limited to, recognition of the peaking load capacity value of solar energy, avoiding any requirement that all participating resources in a capacity market operate in precisely the same manner – for example, by requiring all resources to be able to respond equally to dispatch instructions.

Additionally, the Brattle Group also mentioned that the capacity market design must “(r)ecognize that limited DR and variable resources do have value, but not as much as traditional generation resources.”² It is true that solar PV does not operate like a traditional, gas-fired, energy generator. Solar PV does not, however, provide inherently less value to the system because of this fact. Solar PV has significant peaking capacity contribution, which provides a lot of value to the system. Regulators in other jurisdictions with a capacity market and/or resource adequacy requirement have also built within the market design recognition of the peaking capacity value that solar provides to the grid. Based on simple peak coincidence, solar has a very high capacity value in ERCOT, as there is so little solar in ERCOT today, and so the peak load coincidence is quite high. First Solar recommends that the Commission and ERCOT evaluate solar resource data and its potential value in ERCOT, and adopt a methodology for calculating the capacity value of solar through a public process.

First Solar recognizes that, should the state adopt a capacity market or resource adequacy obligation, there may be requirements adopted that are unintentionally discriminatory against or biased toward certain resources based on the specific performance characteristics and capabilities of that resource. There is mention in the Brattle Group’s Composite Policy Options that “(R)esources must be available whenever needed; lose capacity

¹ Brattle Group Composite Policy Options, slide 19.

² Brattle Group Composite Policy Options, slide 25.

payments if not.”³ We fully recognize and agree that, if a resource receives a capacity contract award, that its output must be reliable and predictable and consistent with the terms of its bid. This is consistent with contractual terms that we agree to in long-term contracts. However, we do not necessarily agree that a resource needs to be available 24 hours a day and 7 days a week and readily dispatchable to participate in a capacity market and provide reliable and predictable output to the grid. Solar forecasting is quite advanced and reliable, and output of solar energy projects is predictable with a high degree of accuracy. Solar PV only generates during daylight hours, and its output during those hours is quite predictable on any given day. It is absolutely possible and reasonable, thus, for a non-dispatchable resource, like solar, to be relied upon as a capacity resource and flexible gas fired generators to be relied upon to dispatch quickly when needed. To this end, First Solar would recommend that, should the Commission decide to adopt a resource adequacy obligation or capacity market, that they consider establishing categories of resources based on attributes – such as operating hours, generation profile, and flexible capability or lack thereof.

Thank you for considering these comments.

Respectfully Submitted,



Rachel McMahon
Director, Regulatory Affairs
First Solar, Inc.

³ Ibid.